

#4  
PATENT  
P55941

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

ZACHARY DAVID DIMENSTEIN

Serial No.: *to be assigned*

Examiner: *to be assigned*

Filed: 4 January 2000

Art Unit: *to be assigned*

For: APPROVED WEB SITE MP3 DOWNLOADING

JC675 U.S. PTO  
09/477413  
01/04/00

**CLAIM OF PRIORITY**  
**UNDER 35 U.S.C. §119**


Assistant Commissioner  
for Patents  
Washington, D.C. 20231

Sir:

The benefit of the filing date of the following prior application, provisional application Serial No. 60/114,958 filed in the U.S. Patent and Trademark Office on 5 January 1999, is hereby requested and the right of priority provided in 35 U.S.C. §119 is hereby claimed.

In support of this claim, filed herewith is a copy of said original application.

Respectfully submitted,

  
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Folio: P55941  
Date: 4 January 2000  
I.D.: REB/kf

Please type a plus sign (+) inside this box



Docket Number:

2594-1

## PROVISIONAL APPLICATION FOR PATENT COVER SHEET (Large Entity)

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53 (c).

INVENTOR(S)/APPLICANT(S)					
Given Name (first and middle (if any))		Family Name or Surname		Residence (City and either State or Foreign Country)	
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<input type="checkbox"/> Additional inventors are being named on page 2 attached hereto					
TITLE OF THE INVENTION (280 characters max)					
Approved Web Site MP3 Downloading					
CORRESPONDENCE ADDRESS					
Direct all correspondence to:					
<input type="checkbox"/> Customer Number				Place Customer Number Bar Code Label here	
OR					
<input checked="" type="checkbox"/> Firm or Individual Name		Samsung Electronics			
Address		1200 New Hampshire Avenue, N.W.			
Address		Suite 550			
City		Washington	State	DC	ZIP 20036
Country		USA	Telephone	(202) 296-0227	Fax (202) 331-7961
ENCLOSED APPLICATION PARTS (check all that apply)					
<input checked="" type="checkbox"/>	Specification	Number of Pages	8		
<input checked="" type="checkbox"/>	Drawing(s)	Number of Sheets	4		
		<input type="checkbox"/> Other (specify)			
METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT (check one)					
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The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.					
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Respectfully submitted,

SIGNATURE

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DATE

January 5, 1999

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SEND TO: Box Provisional Application, Assistant Commissioner for Patents, Washington, DC 20231

U.S. PRO  
09/477413  
01/04/00

**APPLICATION FOR UNITED STATES PATENT**  
**PROVISIONAL APPLICATION**

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**ENTITLED:** Approved Web Site MP3 Downloading

**ATTY. DOCKET NO.:** 2594-1

**Date:** January 5, 1999

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## **APPROVED WEB SITE MP3 DOWNLOADING**

### **FIELD OF THE INVENTION**

5 The present invention generally relates to a method for ensuring that a digital storage device will only be able to download or play files that were obtained from sources which have been deemed by the device manufacturer or an overseeing organization to be acceptable. In particular, it ensures that the digital storage device does not download, play and/or display files that were obtained over the Internet from web sites that have not been pre-approved by  
10 the device manufacturer or overseeing organization.

### **BACKGROUND OF THE INVENTION**

With the growing popularity of using the Internet to transfer files in digital format, there has been increasing concern over the need to protect the intellectual property rights of  
15 individuals and organizations with copyrighted material such as books, music and movies. The reason for this is that once made available in digital format, high quality illegal copies of these copyrighted materials can be made available indiscriminately.

Several web sites currently make available unencrypted files for the free distribution of book  
20 and music content. Several of these web sites are maintained with the full consent of the legal owners of the copyrighted material, where the copyright owners see this as a way to help promote and market their content. On the other hand, there are also many web sites which make available copyrighted files without the consent of the rightful owners of this content. There is therefore the necessity to find a way to allow web sites to distribute legally  
25 available unencrypted and encrypted files over the Internet while at the same time keeping digital devices from being able to play or download illegally available files.

A method currently used to address this problem is to use encryption techniques that will only allow a device with the appropriate encryption key to decrypt a particular file; thus,  
30 when an encrypted file is downloaded from a web site, only the devices for which the file was intended are able to decrypt it.

Existing encryption techniques are appropriate in the situation where only legal sources have access to specific copyrighted content and the intent is to make sure that whoever downloads that content cannot distribute it in unencrypted format for use on another device. However, existing encryption methods do not solve the problem if the copyrighted content is already available in the hands of those that would make it available illegally; such is the case with music files, which are already widely distributed in digital format (i.e. CD's) making it easy for someone to illegally distribute the music content over the Internet.

The fact that music happens to be encrypted does not mean that it is being made available with the consent of the rightful owners in the first place; therefore, encryption alone is not sufficient to address this problem. The invention represents a workable solution to this problem that is relatively efficient and foolproof.

## SUMMARY OF THE INVENTION

Due to the open architecture of the PC and the fact that PC's are currently not covered under the Audio Home Recording Act, it would be difficult to restrict a PC from downloading illegally available content; however, it is still possible from both a technical and legal perspective to restrict non-PC digital devices from downloading illegal content either directly from the Internet or from a PC. This invention involves the setting up of an Approved Web Site Database where the PC is equipped with software that encodes only those files that are downloaded from web sites listed on that database. In turn, the digital storage device with a PC interface only downloads those files which were appropriately encoded by the PC; alternatively, the digital storage device can be allowed to download any file but not be able to play or display it. Similarly, non-PC digital devices with direct Internet connectivity would be designed to only download, play and/or display those files downloaded from web sites on the Approved Web Site Database. This invention is appropriate in cases where the files are made available on a web site in either encrypted or unencrypted format.

When used with unencrypted files, this invention ensures that digital devices are only able to download files that were made available in unencrypted format with the permission of the rightful owners of the copyrighted content. The only action that is required by maintainers of web sites is to submit their web site to an industry committee as a legitimate source of files.

5 This web site is in turn placed on the Approved Web Site Database and can be monitored for compliance with copyright protection laws. Those web sites that make available files without the consent of the rightful owners of these files would not be placed on the Approved Website Database by the industry committee.

10 When integrated with an encrypted file secure downloading solution, this invention ensures that web sites are making available encrypted content with the consent of the content's rightful owners. The fact that a web site happens to have the software necessary to encrypt their content still does not necessarily mean that they are making those files available over the Internet legally in the first place; however, the proper maintenance of the Approved Web  
15 Site Database can serve as a way to ensure that digital devices are only able to download encrypted files that were made available with the consent of the contents' rightful owners.

### **BRIEF DESCRIPTION OF THE DRAWINGS**

Figure 1: System diagram for components required in order to implement the invention

20

Figure 2: Method to launch Software Program on PC using standard web browser

Figure 3: Method to encrypt music files downloaded from a web site on the Approved Web Site Database

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Figure 4: Method for a digital storage device to download and play/display encrypted files downloaded from a PC

### **DESCRIPTION OF THE PREFERRED EMBODIMENTS**

30 The Approved Web Site MP3 Downloading invention requires the existence of a server on the Internet (Central Server) which contains an Approved Web Site Database, which is a list of web sites which are deemed as acceptable sources for downloading a file of a certain type

to non-PC digital devices. The invention also requires the existence of digital storage devices with PC interfaces and PC's loaded with appropriate software which are adherent to the specification of this invention. This configuration is illustrated in the Figure 1 attachment. The invention also supports copyright protection for transfer of digital content to non-PC Internet enabled digital storage devices which can download content from the Internet without the assistance of a PC.

Before a user begins to download files from the Internet onto a digital storage device with a PC interface, he first needs to load a software program (Software Program) onto the PC that is adherent to the specifications of this invention. The Software Program can contain either its own web browser or it can be used in conjunction with another web browser already stored on the PC; if the Software Program is to be used with another web browser, the Software Program can either provide a plug-in that works with the web browser or it can configure the web browser so that it is the default executable program that is run whenever a user opens a file of the type that it will be protecting (e.g. MP3). The method for implementing the latter approach is illustrated in the Figure 2 attachment and is assumed to be the method in use in the description below, although implementing the invention with a plug-in or proprietary web browser would be done in much the same way.

The file downloading process is illustrated in the Figure 3 attachment. It begins when a user is using the web browser on his PC to visit a web site that contains files that the user wishes to download. The user clicks on the file that he wishes to download and then the browser prompts the user as to whether he wishes to open the file or to save it. In order to be able to download or play the file on his digital storage device, the user must launch the Software Program, which in this case means that the user must choose the "open file" option.

When the Software Program is launched, it retrieves the IP address of the server from which the file is to be downloaded and it then sends a query to the Central Server to check if the IP address is in the Approved Web Site Database. If the server from which the file is to be downloaded is in that database, The Software Program begins downloading the file. Either before, during or after the file is downloaded to the PC's hard drive, the Central Server

prompts the Software Program to send PC and file specific information, encryption information and other data to the Central Server (preferably over a secure connection). The Central Server utilizes the information it receives from the Software Program and other data to send unique encoding information back to the Software Program, so that the Software Program can use that encoding information to encode the file being downloaded, using an encryption key unique to that PC and that file being downloaded. Alternatively, the Software Program can encode the file and generate an encryption key without receiving the encoding information from the Central Server. The Software Program can either begin the encryption process of the file as it is being downloaded, or alternatively, it can wait until the complete file is downloaded and stored in a hidden directory in the PC's hard drive, and then begin the process of encrypting that file.

The user needs to use the Software Program to download that file from a PC to a digital storage device compliant to the specifications of this invention, since the digital storage device will only play or display files that have been appropriately encoded by the Software Program. The method by which the digital storage device downloads encoded files from the PC is illustrated in the Figure 4 attachment.

In order so that digital storage devices are able to play or display files which are obtained from sources other than the Internet, the Software Program needs to be used to encode those files as well. For example, in the case where it is determined to be appropriate to copy a CD onto a PC's hard disk for later copying onto a digital audio storage device, the Software Program can be used to appropriately encode the music tracks from that CD so that only that PC and digital storage devices downloading content directly from that PC are able to play music from that CD. As an added measure of security, the Software Program can require that it be connected to the Internet and be able to access encryption coding information from the Central Server so that the Software Program can use the encryption coding information from the Central Server to encode the file and generate an encryption key.

The method used to implement this invention for Internet enabled digital storage devices is similar to that used for digital storage devices with PC interfaces, except that the prior does



not require a PC to access files from the Internet. As such, the Software Program is loaded on the Internet enabled digital storage device instead of the PC. In addition, when downloading a file of a certain type from the Internet, the enabled digital storage device can be designed so that it will only be able to download files from web sites on the Approved Web Site List, whereas the PC is able to bypass the Software Program to download files from any source; however, it is important to note that even in the case with the PC, a digital device with a PC interface that is compliant with the specifications of this invention is not able to bypass the copyright protection mechanisms built into this invention.

## ASPECTS OF INVENTION IN WHICH EXCLUSIVE RIGHTS ARE CLAIMED

A digital content encryption apparatus designed to restrict the sources from which a digital storage device will play or display digital content, comprising of:

An Approved Web Site Database which contains a list of the web sites which are determined to be appropriate sources of files of a certain type for digital storage devices adherent to the specification described in this invention.

A Central Server connected to the Internet on which the Approved Web Site Database is stored that performs the following functions:

- when prompted by the Software Program located on a PC or Internet enabled digital storage device, performs query search to determine whether a submitted IP address is on the Approved Web Site Database
- when it is found that the IP address is on the Approved Web Site Database, generates encryption key/encoding information that is unique to the file being downloaded and the device to which it is being downloaded and transmits it to the Software Program
- Transmits unique encryption key/encoding information to the Software Program when the Software Program requests one for the purpose of encoding digital

content that is being copied from a media storage peripheral device onto the device's own digital storage memory

A Software Program located on a PC that performs the following functions:

- 5      ◦ identifies the IP address from which a file is being downloaded
- sends a query to the Central Server to determine whether an IP address is on the Approved Web Site Database
- retrieves encryption key from Central Server when the IP address is on the Approved Web Site Database
- 10     ◦ Encrypts the downloaded file on its own or using the encryption key provided by the Central Server
- Requests unique encryption code/key from Central Server and/or generates own encryption key for the purpose of encrypting digital content being copied from a PC peripheral onto the PC's hard drive
- 15     ◦ Initializes a Digital Storage Device so that the Digital Storage Device is able to download and play/display encrypted files downloaded from the PC

A Digital Storage Device with a PC interface that is adherent to the specifications of this Invention and which performs the following functions:

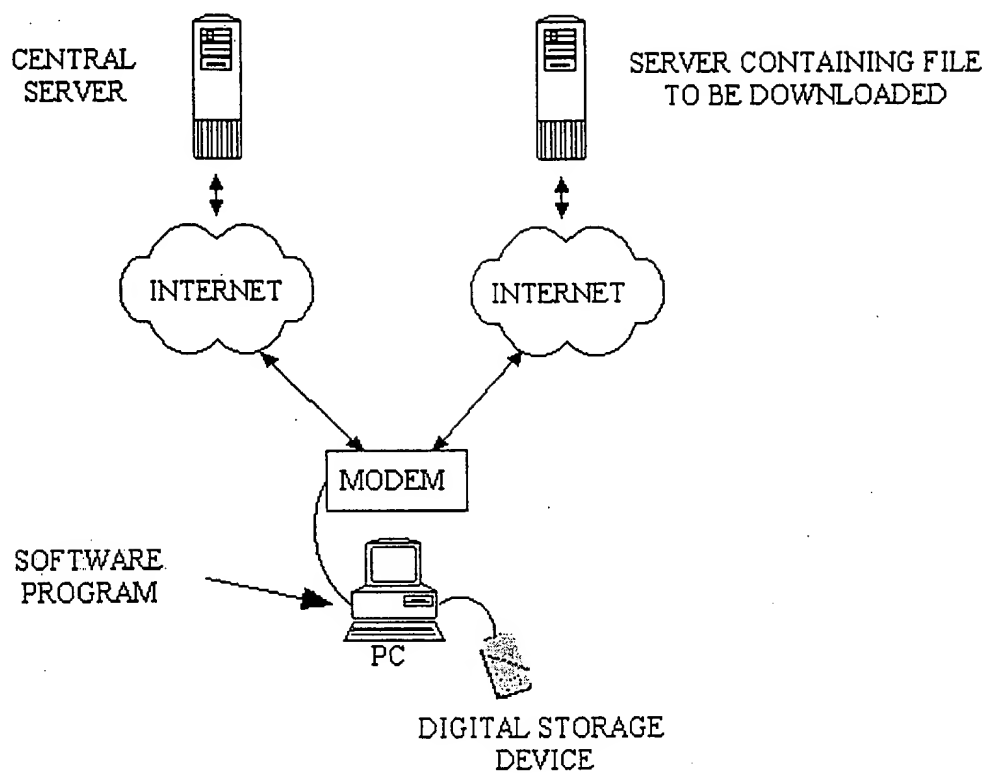
- 20     ◦ Connects to PC so that it can be initialized by the Software Program
- Allows Software Program to retrieve information of files that it stores
- Allows user to download files to it through the user interface of the PC Software Program
- Retrieves encryption key from Software Program for files that it downloads
- 25     ◦ Only plays/displays files that are appropriately encrypted
- Does not play/display files that are sent to it in unencrypted format
- Does not provide other devices with access to its encryption key information

The Software Program could also be located on an Internet enabled Digital Storage Device that performs the following functions:

- 30     ◦ identifies the IP address from which a file is being downloaded

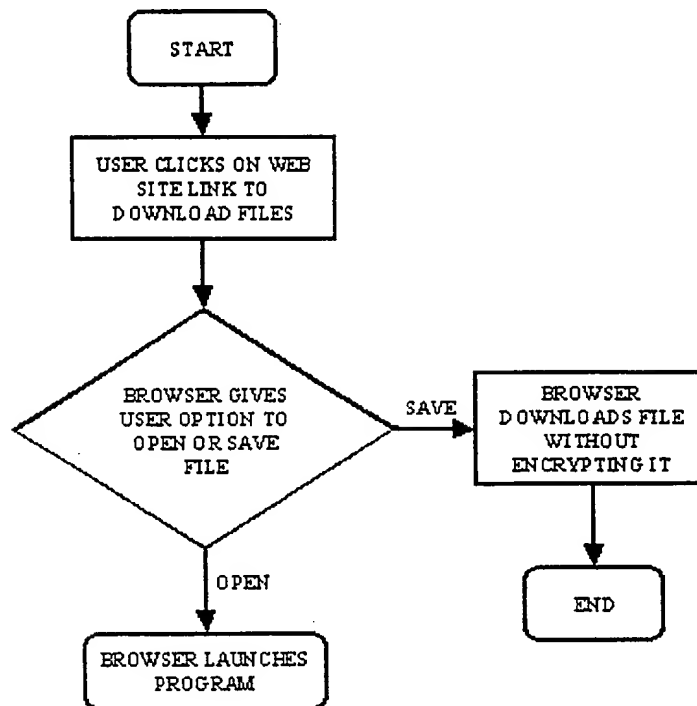
- sends a query to the Central Server to determine whether an IP address is on the Approved Web Site Database
- retrieves encryption key/code information from Central Server when the IP address is on the Approved Web Site Database
- 5 • Encrypts the downloaded file using the encryption key provided by the Central Server
- Only plays/displays files that are appropriately encrypted
- Does not play/display files that are sent to it in unencrypted format
- Does not provide other devices with access to its encryption key information

FIGURE 1:  
SYSTEM DIAGRAM



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**FIGURE 2:**  
**METHOD TO LAUNCH SOFTWARE PROGRAM USING STANDARD WEB BROWSER**



**FIGURE3:**  
**METHOD TO ENCRYPT MUSIC FILES DOWNLOADED FROM A WEB SITE ON THE**  
**APPROVED WEB SITE DATABASE USING PC SOFTWARE PROGRAM**

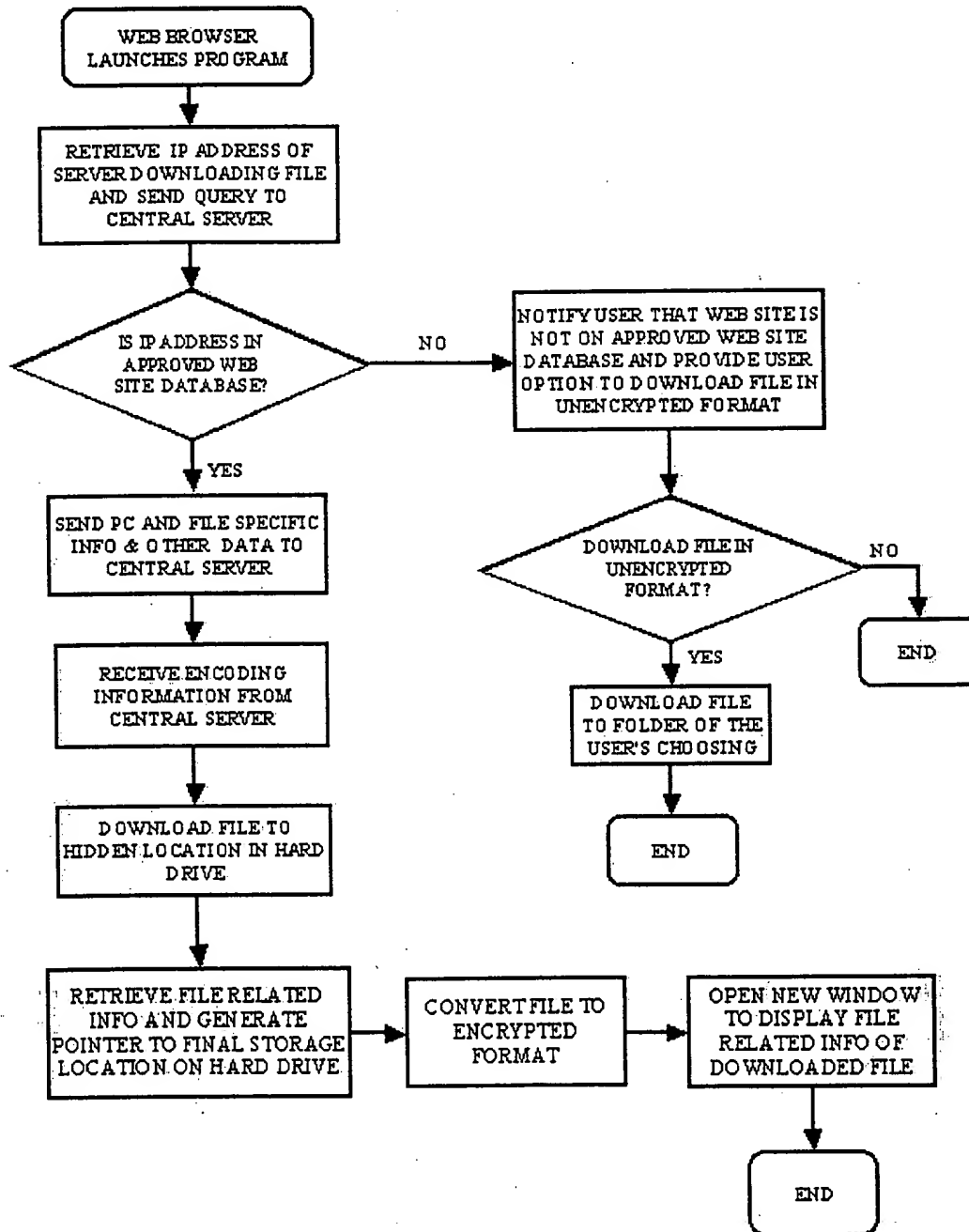


FIGURE 4:  
METHOD FOR A DIGITAL STORAGE DEVICE TO DOWNLOAD AND  
PLAY/DISPLAY ENCRYPTED FILES FROM A PC

